Instructions for Fielding the ECHO® Survey 3.0 (The CAHPS® Behavioral Health Survey)

List of Tables and Figures

Overview

This document explains how to field the ECHO Survey 3.0 (which is the CAHPS behavioral health survey) and gather the data needed for analysis and reporting. ECHO stands for Experience of Care and Health Outcomes. Please refer to the CAHPS Web site (www.cahps.ahrq.gov) for more general information about this survey instrument.

These instructions apply to surveying adults receiving services from either managed behavioral healthcare organizations or health insurance plans. Specifically, you will find instructions for the following tasks:

- Constructing the sampling frame
- Choosing the sample
- Maintaining confidentiality
- Collecting the data
- Tracking returned questionnaires
- Calculating the response rate

Anticipated Users of Instructions

These instructions are designed for any organization that may be fielding the ECHO Survey – whether it be the sponsor of the survey or a vendor with whom they have contracted.

First Decision: Whether to Use a Third-Party Vendor

The ECHO development team recommends that sponsors use a third-party vendor to administer the survey. Reasons for the recommendation include the following:

- Many survey vendors have a wealth of experience with the ECHO survey or similar surveys and the relevant populations.
- Because survey vendors have experienced professionals on staff, they are often able to produce a better product at a lower cost than can be achieved in-house.
- Hiring an outside vendor enhances the likelihood of obtaining unbiased, credible results.

Also, NCQA requires that MBHOs conducting the ECHO survey for accreditation purposes use a third-party vendor. A list of accredited vendors is available at www.ncqa.org.

However, hiring an outside vendor means releasing names, addresses, and phone numbers to an external organization. We recognize that some States do not allow health care organizations to release identifying information for individuals who have used mental health services or who have a psychiatric or substance abuse diagnosis.

Consequently, these guidelines lay out two options for drawing a sample, one of which allows you to use a vendor while still safeguarding the identity of users of behavioral health services. You may want to review those options before deciding whether or not to use a vendor.

Sampling Guidelines

The sampling guidelines in this section will help you understand who is eligible to be included in the sample frame for the ECHO Survey and how to select a sample. By following these guidelines, you can be confident that your results will be comparable to those produced by other sponsors and vendors. This is particularly important if you are planning to submit your results to the National CAHPS Benchmarking Database (or simply the CAHPS Database). For information about the CAHPS Database, go to https://www.cahps.ahrq.gov/content/ncbd/ncbd_Intro.asp.

Second Decision: Which Sampling Protocol to Follow

Because the ECHO survey deals with potentially sensitive information, you will have to decide how to balance the desire for efficiency with the need to protect patient information. These instructions lay out two options for your consideration.

- **Option 1 draws the sample from the population of patients who have received behavioral health services (Sample A).**

  Since users of behavioral health service are a small percentage of all health plan members,[1] it would be both costly and inefficient to survey a large random sample of members in order to get a sufficient number of responses from those who used the services. For that reason, the ECHO development team recommends drawing the sample from the population of patients known to have received these services.

  If you need to use a third-party vendor and are precluded from releasing information that identifies patients who have used behavioral health services, you cannot use this option.

[1] According to the National Institute of Mental Health, from 0.9 percent to 9.7 percent of managed care members use outpatient specialty mental health services. Treated prevalence for substance abuse tends to be even lower. See: *Parity in Financing Mental Health Services: Managed Care Effects on Cost, Access and Quality*. Interim Report to Congress by the National Advisory Mental Health Council, NIH, May 1998.

- **Option 2 draws the sample from a larger group composed of patients who have received these services (Sample A) as well as those who have not (Sample B; e.g., employees who are eligible for services from an MBHO but have not used them).**

  This option addresses the need to protect the confidentiality of the information of behavioral health users and minimize any concerns that members may have about getting the survey. When creating the sample, you will be drawing disproportionately from the group of individuals who have received services, but they will not be identifiable to a third-party vendor.

When choosing among these two options, consider the following issues:

- **State law**: Do the laws of your state allow you to identify only members who have received behavioral health services for the survey? If not, you will have to pursue Option 2.
- **Access to data**: Do you have access to the information needed to sample from the general plan membership? If not, you will have to pursue Option 1.
- **Cost:** Will your budget cover the additional costs associated with sampling and surveying extra members? Option 1 may be a more cost-effective strategy.

Impact of Sampling Option on Survey Administration and Content. The sampling option you choose will not affect how you administer the survey, but it will influence the contents of the notification letters and the telephone scripts. (See the **Sample Letters** [document number 261] and the **Sample Script for Initial Telephone Contact** [document number 262a], which are included in the ***ECHO Survey and Reporting Kit 2004***.)

The sampling option will also affect the content of the questionnaire. If you use Option 2 (i.e., survey a blended sample of members), it is recommended that you add a single page of six items about the member's general health care to the beginning of the questionnaire. This page, called the **Mixed Sample Set** (document number 258), is included in the ***ECHO Survey and Reporting Kit 2004***.

The purpose of these items is to minimize any confusion or concerns among members, especially those who did not receive any behavioral health services, about getting a survey that does not appear to be at all applicable to them. This set of six items may be used to transition members into the behavioral health care-specific items.

Defining the Sample Frame: Eligibility Guidelines

The sample selected for the survey will be drawn from a list of unique individuals (adults aged 18 and older); this list of individuals is called a **sample frame**.

- For Option 1, the list – known as Sample Frame A – will include adults who have received mental health or substance abuse services from a managed care organization (MCO) or managed behavioral health organization (MBHO).

- For Option 2, you will draw two samples: one from Sample Frame A and the other from Sample Frame B, which includes adults eligible to receive these services from either MCOs or MBHOs.

This section presents guidelines for determining who to include in your sample frame for the ECHO survey.

Inclusion Criteria for Sample Frame A

Sample Frame A – which you will use whether you choose Option 1 or Option 2 – should include all individuals who meet the following criteria:

Age of Individual

- The individual is 18 years old or older (as of January 1 of the current year).

Enrollment Status of Individual

- The individual was enrolled in the organization when the sample was drawn.
- The individual had been enrolled for the previous year (12 months), with no more than one gap in enrollment during the year. That one gap must not exceed 45 days. Consider members to be enrolled if they switched products, as long as there was no more than a single gap in enrollment and that gap was less than 45 days.

Why a 12-Month Timeframe?

The 12-month timeframe was selected for several reasons:

To be consistent with the CAHPS Health Plan Survey.

To be short enough to allow respondents to recall and differentiate among past experiences

To be long enough to ensure that the items will apply to enough respondents to yield meaningful results.

To be long enough to ensure that each of those respondents can report on and rate their experiences with an adequate number of services.

In testing of the instrument, this time period was found to work well with respondents.

Tip for Identifying Eligible Individuals: To identify those who have been enrolled in the plan or product for 12 months or longer, use the anticipated start date of data collection to determine whether the person meets the 12-month eligibility requirement. For example, if your anticipated start date is March 1, 2004, include all those who have been continuously enrolled from on or before March 1, 2003.

Multiple Members of Household

- There are no other members of the household in the sample frame. If more than one member was selected from the same household, randomly select one member for inclusion in the sample frame. You can identify members of the same household by looking at the subscriber identification number that plans use to identify subscribers and their dependents. If a subscriber number is not available, conduct a search for people in the same household by using telephone numbers and/or home addresses.

Services Received by Individual

- The individual received ambulatory or outpatient and day/night behavioral health care services during the evaluation period. For the purposes of the ECHO survey, behavioral health services are broadly defined to include mental health and chemical dependency services. Services for selection can include:

  - Outpatient visits or treatment sessions,
  - Medications,
  - Partial treatment, or
  - Day or night treatment.

  Sponsors may decide to limit the eligible members to those who received services from network providers or to those who received services from a specialty behavioral health care provider.

  The following administrative codes have been developed to identify patients who have received services:

Table 1. Administrative Codes to Identify Individuals Who Have Received Ambulatory and Day/Night Behavioral Care Services

CPT codes		ICD-9-CM Principal Diagnosis Code
Mental Health		
90801 90802 90804-90824 90826-90829 90845-90847 90849 90853 90857 90862 90870-90871 99201-99205* 99211-99215* 99241-99245* 99347-99350* 99383-99387* 99393-99397* 99401-99405*	**And**	290 293-302 306-316
Chemical Dependency		
90801 90802 90804-90824 90826-90829 90845-90847 90849 90853 90857 90862 90870-90871 99201-99205* 99211-99215* 99241-99245* 99347-99350* 99383-99387* 99393-99397*		291-292 303-305 or 960-979 with a secondary diagnosis of chemical dependency

Note: For ambulatory/day-night services the CPT code and the ICD-9 code must be present.
*All services with a CPT E&M code should be with a mental health practitioner.
Reference: NCQA; HEDIS 2003, Volume 7.

Inclusion Criteria for Sample Frame B

To identify individuals who are eligible for inclusion in the sample frame of members who did **not** receive behavioral health care services, use the following criteria.

Age

- The individual is 18 years old or older (as of January 1 of the current year).

Enrollment Status of Individual

- The individual was enrolled in the organization when the sample was drawn.
- The individual had been enrolled for the previous year (12 months), with no more than one gap in enrollment during the year. That one gap must not exceed 45 days. Consider members to be enrolled if they switched products, as long as there was no more than a single gap in enrollment and that gap was less than 45 days.

Exclusion

- This sample frame must not include members who received specialty behavioral health care services or others from their household. You can identify members of the same household by looking at the subscriber identification number that plans use to identify subscribers and their dependents. If a subscriber number is not available, conduct a search for people in the same household by using telephone numbers and/or home addresses.

Sample Frame Elements

The following information (data elements) should be included in the sample frame for the ECHO Survey.

Unique ID (This field must be maintained throughout the study. It should not be the same number as the member ID.)

Product line (commercial, Medicare, public assistance)

Product type (HMO, POS, PPO, purchaser carve-out)

MBHO or health plan ID (unique number that identifies the organization)

Name of MBHO or health plan

Health plan product type (HMO, POS, PPO, PCCM, etc.)

Name of person (first and last names in separate fields)

Gender

Date of birth

Home address (includes street address, city, state, and ZIP Code each in a separate field)

Telephone number with area code (if available)

Date of enrollment in plan

Months of continuous enrollment

Calculating Sample Size

The next step is to determine how large your sample needs to be. The recommended sample size depends on which option you have selected, the number of responses you need, the response rate you anticipate, and the degree of underreporting you expect. This section explains these issues and walks you through the calculation process.

Minimum number of responses: 411. Regardless of which option you choose, you must receive a sufficient number of responses for analysis and reporting (i.e., a number that ensures that you can detect differences in performance for most measures). The following instructions for calculating sample size assume that you will select enough individuals for the sample to obtain at least 411 completed questionnaires. One reason for this target is that it is the number of responses required by NCQA. Another reason is to ensure that you receive enough responses to items that are only applicable to a subset of respondents.

That said, the CAHPS standard for completed questionnaires is 300, and that number may be acceptable for the ECHO Survey depending on your circumstances. Please contact the CAHPS User Network if you have questions about fielding the survey to a smaller sample. (Contact information is provided at the bottom of this page.)

Whether you aim for 411 or 300 completed questionnaires, remember that this target number pertains to each population being surveyed. That is, if you are interested in assessing the performance of an MBHO or health plan in serving Medicare, Medicaid, and commercial enrollees, you will need to generate 411 (or 300) completed surveys from each population group.

Expected response rates. The actual number of surveys administered depends upon the expected response rate, which will vary by population.

- Expected rate for the commercial and Medicare population: 50%
- Expected rate for the Medicaid population: 40%

Anticipated underreporting. Some individuals will report that they have not received behavioral health services in the past year, even though administrative data indicate that they have. This "underreporting" can occur for various reasons, including:

- The administrative data are incorrect.
- Individuals forget whether or when they received behavioral health services.
- Individuals are reluctant to admit on the survey that they received such services.

Regardless of the cause of the underreporting, those administering the survey must account for it when determining the sample size. The developers of the ECHO survey recommend a 15% adjustment up from the target number of responses (411) to account for those individuals who received services within the past year according to administrative data but reporting on the survey that they did not.

Calculating the Sample Size for Option 1

In Option 1, you will be drawing a sample from Sample Frame A, which ensures that you will administer the survey only to members who have received behavioral health services.

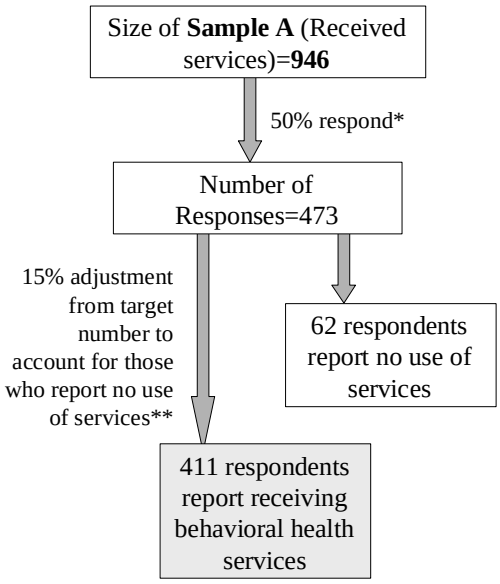
Tables 2 below outlines the recommended sample size for this protocol option. The target number of completed surveys refers to those who have received services. If your organization has fewer members who received services than the recommended sample size, we recommend surveying all members who received services.

Table 2. Sample Sizes by Product Line for Option 1

Product Line	Sample Size for Members who Received Behavioral Health Care Services [a]	Total Sample Size	Target Number of Completed Surveys from Members who Received Behavioral Health Care Services [b]
Commercial	946	946	411
Medicare	946	946	411
Medicaid	1,183	1,183	411

a. Based upon an estimated 40% response rate for Medicaid members and a 50% response rate for commercial and Medicare members and an adjustment of 15% to account for members who received services during the past year according to administrative information, but report on the survey that they did not.
b. Computed based upon a detectable difference for most measures of 10%. The calculation assumes a two-tailed test of significance between two proportions using a significance level of 5% and 80% power. A normal approximation to the binomial with continuity correction was used in the calculation.

Figure 1. How the Sample Size Is Calculated for Option 1 (Commercial Product)



* If you have a better estimate of what your response rate might be based on previously fielding a CAHPS survey, then you may want to adjust your sample size accordingly.

**This is an estimate based on field testing and pilot tests of the instrument.

If you anticipate that poor contact information (addresses and telephone numbers) will decrease the number of questionnaires that reach the sampled individuals, you may need to start with a larger sample.

The sample you draw will become the basis for **Database 1**. If you are using a survey vendor, this is the database you should submit for the administration of the survey. For more information, see the section on "Creating a Database for the Survey Administrator" below.

Calculating the Sample Size for Option 2 (Mixed Sample)

In Option 2, you will be drawing a sample of members Sample Frame A (those who have received behavioral care services) and a sample of members from Sample Frame B (those who have not received behavioral care services). As noted earlier, this option was developed to help protect the confidentiality of users of behavioral health services and address any concerns they may have about receiving this survey.

How Will Members Know Their Information Is Protected?

When the survey is conducted for those in the 'mixed' sample, written contact materials and telephone interviewers can indicate that the member is part of a probability sample of general plan members. This may reduce or eliminate members' concerns about the release of sensitive information. It also prevents a potential breach of confidentiality by allowing members to choose whether or not they would like to identify themselves as having used behavioral services and provide feedback about those services. The survey does not make any assumptions about service utilization and uses screener questions to allow respondents to indicate whether or not they received services.

To have a sufficient number of responses for analysis and reporting, you need to select enough individuals to obtain approximately 411 completed questionnaires from members who report the use of behavioral health services. Thus, to implement this protocol, you will draw a stratified, disproportionate probability sample of plan members, with disproportionate sampling of those who have received behavioral health care services:

- Approximately 20% of the sample should consist of members of the health plan who have not received behavioral health services.
- Approximately 80% of the sample should consist of members who have received behavioral health services.

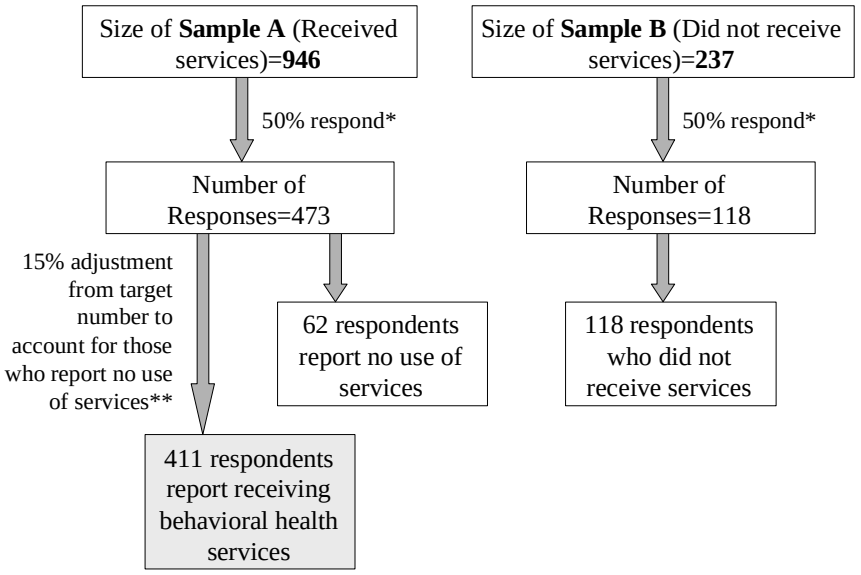
Table 3 below outlines the recommended sample size for each cohort. Figure 2 illustrates the calculation of the sample size.

Table 3. Sample Sizes by Product Line for Option 2 (Mixed Sample)

Product Line	Size of Sample A; Members who Received Behavioral Health Care Services (80%) [a]	Size of Sample B: Members Who Did Not Receive Behavioral Health Care Services (20%)	Total Sample Size	Target Number of Completed Surveys from Members who Received Behavioral Health Care Services [b]
Commercial	946	237	1,183	411
Medicare	946	237	1,183	411
Medicaid	1,183	296	1,479	411

a. Based upon an estimated 40% response rate for Medicaid members and a 50% response rate for commercial and Medicare members and an adjustment of 15% to account for members who received services during the past year according to administrative information, but report on the survey that they did not.
b. Computed based upon a detectable difference for most measures of 10%. The calculation assumes a two-tailed test of significance between two proportions using a significance level of 5% and 80% power. A normal approximation to the binomial with continuity correction was used in the calculation.

Figure 2. How the Sample Size Is Calculated for Option 2 (Commercial Product)



* If you have a better estimate of what your response rate might be based on previously fielding a CAHPS survey, then you may want to adjust your sample size accordingly.

**This is an estimate based on field testing and pilot tests of the instrument.

If you anticipate that poor contact information (addresses and telephone numbers) will decrease the number of questionnaires that reach the sampled individuals, you may need to start with a larger sample.

Drawing the Sample from Each Sampling Frame: General Instructions

For both Option 1 and Option 2, you draw the sample by following these four steps:

Step 1. Sort the file by last name, first names and date of birth.

Step 2. Create a random number variable (Randnum) for each record in the sampling frame. The random number should be between 0 and 1 with 20 decimal places. This created variable must be randomly generated (most software packages provide this option).

Step 3. Sort the file from the smallest random number to the largest. The Randnum variable should be submitted with Database 1 (see below for an explanation of Database 1).

Step 4. Select the number of cases needed for the administration option selected. (To see the appropriate number of cases, refer back to Table 2 for Option 1 and Table 3 for Option 2.)

Creating Databases for the Survey Administrator

If you chose Option 1, you will be creating only one data file called **Database 1**, which is based on one sample. See the fields for this database in the box below.

If you chose Option 2, you will have to create **two** data files based on the two samples you have drawn (one for members who received services, one for members who did not). To do this:

- Combine the two samples into one file.
- Before you send anything to the survey vendor (or whoever will be administering the survey), separate information about service use or sample identifiers from the file that contains the member's contact information. The file with the contact information is now **Database 1.** The file with the information on service use is now **Database 2.**
- Assign a unique identification number for each case in Database 1 and Database 2. You need to use that identifier in both data sets so that the sponsoring organization can later link the information for analytic purposes (e.g., the sponsor may want to see how responses relate to the use of specific services). Be sure to limit access to this information to only a few individuals in the sponsoring organization.

  When assigning identification numbers, **do not use** any numbers that could be used to identify the member, such as:

- Numbers that are used internally by the member's health plan or MBHO to identify the member's records,
- Social Security numbers, or
- Driver's license numbers.

- Give the vendor **Database 1**, which should contain names, addresses, and telephone numbers, but no information about service use. (See the data fields for Database 1 in the box below.) Based on this data file, the vendor will not be able to identify who has and who has not received services.
- Retain **Database 2**, and do **not** send it to the vendor with Database 1. This database should include only:
  - a unique case identifier, which corresponds to the identifier in Database 1, and
  - a field identifying whether or not the member has received behavioral health services.

  Once the identifying information has been removed, you may link Database 2 with the survey results to analyze responses from those who were previously identified as having received behavioral health services. However, to maintain confidentiality, do not link Database 1(which contains the members' identifying information) with the survey responses.

Database 1: Data Fields for Sample Used for Survey Administration

If you selected Option 2 for the sampling protocol, Database 1 combines the samples of members who have and have not received behavioral health care, including the member's name and contact information needed to administer the survey. In that case, this data file should not contain any information about behavioral health care service use.

If you selected Option 1, this database is drawn from the sample of members who received behavioral health services.

Data Fields for Database 1

1. Unique ID created (field must be maintained throughout the study)
2. Product line (commercial, Medicare, public assistance)
3. Product Type (HMO, POS, PPO, purchaser carve-out)
4. MBHO or health plan identification number
5. Name of MBHO or health plan
6. Name of person (first and last names in separate fields)

7. Home address
8. City
9. State
10. Zip code
11. Home telephone number
12. Gender
13. Date of Birth
14. Randnum – random sampling number generated during sampling step
15. Date of enrollment in plan
16. Months of continuous enrollment

Quality Control for Database 1

Before handing off Database 1 to a vendor or whoever will be administering the survey, sponsoring organizations should take steps to confirm the accuracy of their information on plan enrollment and service use.

Also, sample files from the plans or MBHOs may not contain all the information needed for Database 1. You or your vendor may need to gather additional information. This may be a complex, multistep process that requires time, rigorous quality control, and coordination between the sponsor and the survey administrator. Among the key pieces of information that are critical to the success of data collection are accurate and complete names, addresses, and telephone numbers for telephone surveys. In cases in which you have incomplete address information or have reason to believe that this information may be inaccurate, sponsors and/or vendors may be able to use other sources, such as CD-ROM directories, Internet sources, or directory assistance, to clean the sample file.

Data Collection Protocol

The recommended administration protocol for the ECHO Survey is a mixed mode approach that uses both mail and telephone modes of data collection to maximize response rates. Specifically, to administer this survey, conduct:

- A single mailing of the survey
- Telephone follow-up of non-respondents to the mailing

In field testing, the telephone follow-up increased the mail-only response rate by 38 percentage points for commercial enrollees (for a total response rate of approximately 58 percent) and 23 percentage points for public assistance enrollees (for a total response rate of approximately 43 percent).

This section provides you with basic protocols for a mailed survey with telephone follow-up.

Effect of Sampling Options. The recommended administration strategy is similar for the two sampling options described earlier in this document (i.e., sampling members who received behavioral health services only versus a combination of those who received services and those who did not)

However, the option you chose will affect the contact materials (letters and postcards) and telephone interviewer scripts. Examples of these materials are available in the following documents, which are included in the ***ECHO Survey and Reporting Kit 2004***:

- **ECHO Survey: Sample Letters** (document number 261)
- **ECHO Survey: Sample Script for Initial Telephone Contact** (document number 262a)

Important: Minimize the Time Lag Between Sampling and Administration

Sponsors and vendors should do what they can to minimize the time between completing the sampling procedure and beginning the administration protocol. Respondents were selected for the sample based upon information contained in administrative records about the services they received over a 12-month period. The questionnaire will ask them to report about services received in the past 12 months.

If there is a significant lag between the completion of the sampling and the beginning of the administration of the survey, a high proportion of respondents who received services according to administrative data may indicate that they did not receive services. The result may be a significant reduction in the number of surveys that are eligible for analysis.

Timeframe for Recommended Survey Tasks

Since you are using only a single survey mailing, the field period is fairly short (8 weeks). Sponsors may choose to increase the number of survey mailings to improve the mail response.

Recommended Task	Timing
Send questionnaire with cover letter and fact sheet to the respondent	Day 0
Send a postcard reminder to all respondents	Day 7
Initiate computer-assisted telephone contacting for non-respondents, such that at least 8 telephone calls are attempted at different times of the day and on different days of the week	Day 15
Telephone follow-up is completed (complete interviews obtained or maximum call numbers reached for all non-respondents)	Day 56

Maintaining Confidentiality

Privacy assurances are central to encouraging respondent participation. Survey vendors should already have standard procedures in place for maintaining the confidentiality of respondents' names and minimizing the extent to which identifying information, such as names and addresses, are linked to the actual survey responses. For example, the individual ID numbers that are used to track the survey must not be based on existing identifiers, such as Social Security numbers or employee ID numbers.

Many survey vendors require employees to sign statements of confidentiality ensuring that they will not reveal the names of respondents or any results linked to specific individuals.

There are several opportunities during the survey process to explain to respondents that their responses are kept strictly confidential. The key avenues are the advance and cover letters and interviewer assurances during telephone interviews.

Conducting a Survey by Mail: Basic Steps

Here are the basic steps for collecting data through the mail, as well as some advice for making this process as effective as possible.[2]

- **Set up a toll-free number** and publish it in all correspondence with respondents. Assign a trained project staff member to respond to questions on that line. It is useful to maintain a log of these calls and review them periodically.

- **Send the respondent a questionnaire with a cover letter, fact sheet, and any special instructions.** This letter should be:

  - Authored by a recognizable organization (e.g., the sponsor or participating health care purchaser).

  - Personalized with the name and address of the intended recipient (if possible).

  - Signed by a representative of the sponsoring organization(s).

  Spend some time on the cover letter, checking it for brevity and clarity, and ensuring that there are no grammatical or typographical errors. (See the **Sample Letters** [document number 261] that are in the ***ECHO Survey and Reporting Kit 2004***.) Also enclose a postage-paid return envelope to encourage participation.

  The outside envelope: It usually helps if the outside envelope for the mailings looks "official" but not too bureaucratic. It must not look like junk mail. A recognizable sponsor's name—such as the name of a government agency, where applicable—should appear above the return address. Envelopes should be marked "forwarding and address correction" in order to update records for respondents who have moved and to increase the likelihood that the survey packet will reach the intended respondent.

- **Send a postcard reminder to nonrespondents 7 days after sending the questionnaire.** The reminder postcards serve as a thank you to those who have returned their questionnaires and as a reminder or plea to those who have not. The **Sample Letters** (document number 261) in the ***ECHO Survey and Reporting Kit 2004*** contain a sample card.

- **Begin follow-up by telephone with nonrespondents 15 days after the questionnaires were sent.** Interviewers should attempt to locate respondents who have not responded to the mailed survey. The sponsor can either use a CATI script or a paper-and-pencil method to conduct the telephone interviews.

[2] Adapted from McGee J, Goldfield N, Riley K, and Morton J. *Collecting Information from Health Care Consumers*, Rockville, MD: Aspen Publications, 1996.

Conducting a Survey by Telephone: Basic Steps

- **Use a computer program to check the telephone numbers of sample respondents for out-of-date area codes and unlikely telephone numbers.** All survey vendors should have standard procedures for checking and updating telephone numbers before beginning data collection. After extensive tracking, there may still be some respondents who do not have a working telephone number, or for whom the survey vendor has only an address. Delivery of a package containing the questionnaire by an overnight service, such as a Priority Mail or Federal Express, can be an effective method of drawing attention to the need to complete the questionnaire.

- **Train the interviewers before they begin interviewing.** Ideally, the interviewer should not affect the results. We recommend the following key procedures for conducting standardized, nondirective interviews:

  - Interviewers should read questions exactly as worded so that all respondents are answering the same question. When questions are reworded, it can have important effects on the resulting answers. Please refer to the **Sample Script for Initial Telephone Contact** (doc. no. 262a) in the ***ECHO Survey and Reporting Kit 2004.***

  - When a respondent fails to give a complete or an adequate answer, interviewer probes should be nondirective. That is, interviewers should use probes that do not increase the likelihood of one answer over another. Good probes simply stimulate the respondent to give an answer that meets the question's objectives.

  - Interviewers should maintain a neutral and professional relationship with respondents. It is important that they have a positive interaction with respondents, but there should not be a personal component. The primary goal of the interaction from the respondent's point of view should be to provide accurate information. The less interviewers communicate about their personal characteristics and, in particular, their personal preferences, the more standardized the interview experience becomes across all interviewers.

  - Interviewers should record only answers that the respondents themselves choose. The CAHPS instrument is designed to minimize decisions that might need to be made by interviewers about how to categorize answers.

Importance of Training and Supervision: Training and supervision are the keys to maintaining these standards. Although these principles may seem clear, it has been shown that training, which includes exercises and supervised role playing, is essential for interviewers to learn how to put these principles into practice. In addition, interviewers may not meet these standards unless their work is monitored. A supervisor should routinely monitor a sample of each interviewers' work to ensure that the interviewers are, in fact, carrying out interviews using prescribed standards and methods. When you are hiring a survey vendor, the protocol for training and supervision should be among the top criteria you consider when choosing among data collection organizations.

Additional Training and Protocols for the ECHO Survey

Because of the sensitivity of this survey, it is important to train telephone interviewers on how to leave confidential messages for the respondent.

It is also critical to have a protocol for crisis referrals to the provider organization if the interviewer encounters a member who needs immediate counseling. The need for crisis referrals is very rare. However, interviewers should not attempt to diagnose or counsel the member. Also, interviewers must ask for the member's permission to contact someone to get help for the member.

Questionnaire Tracking

Most vendors have established methods for tracking the sample. The vendor should also set up a system to track the returned surveys by the unique ID number that is assigned to each respondent in the sample. This ID number should be placed on every questionnaire that is mailed and/or on the call record of each telephone case.

In order to maintain respondent confidentiality, the tracking system should not contain any of the survey responses. The survey responses should be entered in a separate data file linked to the sample file by the unique ID number. (This system will generate the weekly progress reports that sponsors and vendors should review closely.)

Each respondent in the tracking system should be assigned a survey result code that indicates whether the respondent completed and returned the questionnaire, completed the telephone interview, was ineligible to participate in the study, was unable to be located, or refused to respond. It should also include the date the survey was returned or the telephone interview completed. The interim result codes reflect the status of the case during the different rounds of data collection, and the final result code reflects the status at the end of data collection. These result codes are used to calculate response rates, as shown in the next section.

Response Rates

Setting Your Response Rate Goal

The response rate – the percentage of respondents who complete the survey questionnaire – is an important factor in the accuracy of survey results. The higher the response rate achieved, the more representative completed cases will be.

Some sponsors send out very large numbers of questionnaires to get the desired number of completed surveys and to minimize the costs associated with following up with non-respondents. This is not advisable because a robust response from the sample is as important as the final number of completed questionnaires. For example, if you were to send out 2,500 questionnaires and receive 500 responses, your response rate would be only 20 percent. Your results would not reflect the experience and opinions of 80 percent of your sample population. A much stronger procedure would be to mail 850 questionnaires and diligently follow up with non-respondents after about 2 weeks. If you ultimately received 510 completed, usable responses, you would have achieved a response rate of 60 percent—a much more representative reflection of the population.

To this end, the minimum response rate goal for the ECHO Survey is 50 percent for MCOs and MBHOs with commercial or Medicare enrollees and 40 percent for organizations with Medicaid enrollees. These response rates are roughly consistent with the goals set for the CAHPS Health Plan Survey.

Calculating the Response Rate

In its simplest form, the response rate is the total number of completed questionnaires divided by the total number of respondents selected. For analyses of data from the ECHO survey, use the following formula to adjust this rate:

$$\frac{\text{Number of completed returned questionnaires from respondents who received care}}{\text{Total number of respondents who received care (according to administrative data)– (deceased + ineligible)}}$$

In calculating the response rate, do not exclude from the denominator respondents who refused, had bad addresses or phone numbers, or were institutionalized or incompetent. Listed below is an explanation of the categories included and excluded in the response rate calculation:

Numerator Inclusions:

- **Completed questionnaires.** A questionnaire is considered complete if responses are available for 50 percent or more of the key items[3] in ECHO questionnaire. For more information on this issue, see Determining Whether a Questionnaire Is Complete in Appendix B of this document.

Denominator Inclusions:

The total number of respondents selected includes:

- **Refusals.** The respondent refused in writing or by phone to be interviewed**.**
- **Nonresponse.** The respondent was always unavailable and is presumed to be eligible.
- **Bad addresses/phone numbers.** In either case, the respondent was never located.

Denominator Exclusions:

- **Deceased.** In some cases, a household or family member may inform you of the death of the respondent.
- **Ineligible - not enrolled in the plan.** The respondent disenrolled from the plan, was never in the plan, or was enrolled in the plan for less than 6 months.

Improving Your Response Rate

Out-of-date addresses, inaccurate telephone numbers, answering machines, and frequent travel by respondents are common problems.

Sponsors and vendors have a number of methods available to them to maximize response rates:

- Improve initial contact rates by making sure that addresses and phone numbers are current and accurate (e.g., identify sources of up-to-date sample information, run a sample file through a national change-of-address database, send a sample to a phone number look-up vendor).
- Use all available tracking methods (e.g., directory assistance, CD-ROM directories, Internet database services).
- Improve contact rates after data collection has begun (e.g., increase maximum number of calls, ensure that calls take place at different day and evening times over

[3] Key items include questions that all respondents should answer. These include the initial items that establish eligibility for the questionnaire (e.g., whether the respondent is enrolled in a plan and for how long), the screeners for the questions included in the reporting composites, the primary rating question (e.g., in the ECHO Survey for MCOs, the overall rating of the health plan), and the demographic items.

a period of days, mail second reminders, use experienced and well-trained interviewers).

- Consider using a mixed-mode protocol involving both mail and telephone data collection procedure. In field tests, the combined approach was more likely to achieve a desired response rate than did either mode alone.

These methods will add to the costs of conducting a survey, but sponsors need to weigh these extra costs against the potential for obtaining low response rates and, consequently, less representative data.

Once the vendor reaches the respondent, other challenges await: Respondents throw away the envelope, sometimes unopened, or set aside the questionnaire but then never complete it. These responses draw attention to the importance of effectively communicating why the respondent would want to fill out a questionnaire. In addition to conducting persistent follow-up, make sure that the outside envelope, cover letter, and questionnaire are as attractive and compelling as possible.

For additional advice and guidance, see:

- Appendix C: *Enlisting Respondents Who Are Difficult to Reach*
- McGee J, Goldfield N, Riley K, and Morton J. *Collecting information from health care consumers.* Rockville, MD: Aspen Publications, 1996.

Appendix A: Preparing the Data for Analysis

This appendix reviews the steps that a vendor should take to transform the raw data from CAHPS surveys into data that the SAS analysis programs can use.

Introduction

Before conducting an analysis, CAHPS survey vendors must carry out several tasks to prepare the data received from completed questionnaires:

- Task 1: Identify and exclude ineligible cases
- Task 2: Code and enter the data
- Task 3: Clean the data
- Task 4: Conduct an audit

Important: Keep Original File. As you work through these tasks, many interim files will be created. Prior to initiating this process, be sure to take steps to preserve the original data file created when the raw survey responses were entered. Any changes and corrections made during the cleaning and data preparation phase should be made on duplicate files.

There are three reasons for this action:

- The original data file is an important component of the complete record of the project;
- Having an original file will allow you to correct data errors that were made during the cleaning process; and
- The existence of an original file is critical if you or the sponsor wants to go back later and conduct other analyses or tests, such as extent of error tests or tests of skip patterns.

The ***ECHO Survey and Reporting Kit 2004*** includes detailed instructions for using the SAS analysis programs:

- **Instructions for Analyzing CAHPS® Data** (document number 15E)
- **Supplemental Instructions for Analyzing ECHO® Survey Results** (document number 25)

Data File Specifications

The data file contains the raw data from responses to the ECHO survey. The names of the items for each survey and other variables can be derived from the questionnaires. The responses to each question must use the code numbers contained in the questionnaires.

Construct a separate data file for each type of survey instrument. Data from different instruments should not be included in the same data file.

The number and scope of the data preparation tasks and the way they are carried out depends on the data collection protocol and the way in which the data were recorded. For example:

- If you collected data with a self-administered mailed questionnaire, did respondents record answers on optical scan forms[4] or record data directly on the CAHPS-formatted questionnaires?
- If you collected data through telephone interviews, did the interviewer use computer-assisted telephone interviewing (CATI) or paper-and-pencil forms?

Task 1: Identify and Exclude Ineligible Cases

Several situations render a case ineligible for analysis. One common scenario that vendors must be prepared to handle occurs when the respondent is not actually enrolled in a health plan or has not received behavioral health care services. In the ECHO Survey, this might be indicated by a "no" response to Question 1 ("In the last 12 months, did you get counseling, treatment or medicine for any of these reasons?").

However, vendors need to be alert to the fact that a respondent could be a member (or patient), but still answer "no." For example, respondents may answer "no" erroneously if they are confused between the name of a plan (e.g., Blue Cross/Blue Shield) and a product offered by that plan (e.g., Blue Cross/Blue Shield's Health Choice).

Another common reason to code a questionnaire as ineligible and exclude it from the denominator is that a respondent does not meet the enrollment or visit criteria. For the ECHO Survey, for example, a questionnaire should be excluded if the respondent has been enrolled in the plan less than 12 months.

Other questionnaires may be considered incomplete but are not excluded from the denominator. For example:

- If the respondent used a proxy to answer the questions for him or her

[4] Optical scan forms are answer sheets in which respondents fill in the circle that corresponds to their answer choice. These forms are fed through an optical scanning machine, and the data are automatically captured by a computer. Standardized tests for students, such as the Scholastic Aptitude Test, generally use optical scan forms.

- If more than 50 percent of the key items[5] on the questionnaire were not filled in (For more information on this issue, see Determining Whether a Questionnaire Is Complete in Appendix B of this document.)

The Use of Proxy Respondents

If your samples include large numbers of individuals with limited English or with conditions that would make completing the questionnaire difficult (e.g., deafness, blindness), you may need to make decisions about the use of proxy respondents. Because CAHPS surveys are designed to capture a person's own experiences, the questions are not intended to be answered by someone else. For that reason, proxies are acceptable only if they facilitate a person's response (i.e., "read questions to me and recorded my answers" is acceptable, but "answered for me" is not).

Task 2: Code and Enter the Data

There are a variety of possible methods for entering data from CAHPS surveys. The exact level of coding required will depend on the method used to capture the data (e.g., questionnaires that require data entry versus questionnaires that are scanned by a computer). Your coding specialist should review each questionnaire to see whether the responses are legible and whether any responses need to be coded.

After coding is completed, enter the data into a computer file. At the end of the coding and data entry process, you will have an electronic data set of responses to all the questionnaire items.

Mailed Questionnaires

If you use **optical scan forms** for your mailed questionnaires, the scanning equipment automatically enters the data into a computer-readable file.

If you do not use optical scan forms, the mailed questionnaires are designed for direct data entry without the need for coding most respondent answers. However, if it is unclear which answer the respondent selected (e.g., the respondent's pencil mark does not neatly fit within a single answer category, or two responses are marked), then your coding specialist will have to make a decision about which response the respondent intended. If it is not readily apparent what the respondent had intended, then the coding specialist should indicate that the answer be entered as missing.

[5] Key items include questions that all respondents should answer. These include the initial items that establish eligibility for the questionnaire (e.g., whether enrolled in a plan and for how long), the screeners for the questions included in the reporting composites, the primary rating question (e.g., the rating of the health plan), and the demographic items. See Appendix B.

Questionnaires Administered by Telephone

If you employ a **CATI system** for a telephone survey, data are entered directly into a data file that has already been programmed to refuse unlikely and invalid responses.

If you use paper telephone questionnaires to record answers given in a telephone interview instead, the process for coding and data entry is the same as for the standard paper version of the mailed questionnaires.

Double Entry for Quality Control

To ensure quality, answers from each questionnaire should be key-entered by two separate data entry specialists, or key-entered twice by the same person. Compare the results from the two to identify and correct data entry errors.

Task 3: Clean the Data

In many cases, the data set you have created will have imperfections. You will have to take several steps to fix these imperfections before any results are reported:

- **Check for out-of-range values.** Out-of-range responses occur when respondents provide inappropriate responses for a particular question. For example, if the valid response choices for a question are 0 or 1, a value of 2 would be out of range. Similarly, if a respondent circled two categories when he or she was supposed to provide only one answer, the response is out of the acceptable range of the question.

  To detect out-of-range values, you need to review question frequencies. This can be done either by visually scanning a report showing the item distributions or frequencies or running the questionnaire data through a computer program. Often, both techniques are used to improve the quality of the data.

  If you find a value that is impossible (or unlikely) given the response options, review the questionnaire and revise the data as needed. These revisions will often involve setting the out-of-range values to "missing," which drops them from the data analysis for that particular question. Carefully document the results from this review process, including any changes to the data set. Maintain an audit trail (electronic and on paper) so that it will be possible to go back to the original data file.

- **Check for skip pattern problems.** Response inconsistencies generally arise when a respondent misunderstands a question or does not successfully follow instructions to skip questions. An example of a response inconsistency would be if a respondent answered that he or she had no doctor visits in the past 6 months, but then answered follow-up questions about visits in the past 6 months. If there are inconsistencies between the response to the screener question and the following question's response, assume the screener response is correct.

- **Check again for ineligible cases.** Take steps to identify any questionnaires that are not eligible for analysis and remove them from the data set used for the CAHPS SAS program. Delete questionnaires in which less than 50 percent of key items have been answered. (For more information, see Determining Whether a Questionnaire Is Complete in Appendix B.)

- **Check for duplicates.** The number of records in the data file should match the number of completes and partials in the sample file. Duplicates can occur if the vendor conducts a follow-up phone interview, the mail questionnaire arrives at the same time or soon after, and the case slips through the receipt control system. If can also be a result of errors in data entry. Your policy should be to keep the first questionnaire that comes in.

Task 4: Conduct an Audit

Whether surveys are collected by standard paper format, optically scanned forms, or paper telephone questionnaires, a small random sample of the entered data should be audited by comparing hard-copy forms with the results of data entry. This enables you to catch any systematic errors. For example, if the optical scanning program is incorrect, Question 5 may be entered in the file where Question 6 is supposed to be. These types of systematic errors will show up consistently across all questionnaires. Auditing a sample of 75 questionnaires across the entire sample is likely to be sufficient if you want to see whether less than 5 percent of the questionnaires have serious errors.

Appendix B: Determining Whether a Questionnaire Is Complete

If you plan to apply a definition to determine if a questionnaire is complete, the first step is to flag the key questions. Key items include questions that **all** respondents should answer:

- Questions confirming eligibility for the survey (e.g., Q1 in the ECHO Survey)
- The screeners for the questions included in the reporting composites
- The primary rating question (e.g., in the ECHO Survey for MCOs, the question that asks respondents to rate their health plan)
- Demographic items

If the questionnaire has responses to 50 percent or more of the key items in the ECHO survey, it can be considered complete. (The 50 percent cut-off reflects a choice made by the CAHPS Team to guarantee a uniform definition of a completed questionnaire.) For the MCO version of the ECHO Survey, a complete questionnaire would have responses to 12 or more of the key items; for the MBHO version, a complete questionnaire would have responses for 9 or more items.

Version of ECHO Survey	Minimum Number of Key Items to be Complete
MCO	12
MBHO	9

Exhibit 1 lists the key items in both versions of the ECHO Survey 3.0.

Exhibit 1. Key Items for the ECHO Survey 3.0 (for adults)

MCO Item	MBHO Item	Question Wording
1.	1.	In the last 12 months, did you get counseling, treatment or medicine for any of these reasons?
2.	2.	In the last 12 months, did you call someone to get professional counseling on the phone for yourself?
4.	4.	In the last 12 months, did you need counseling or treatment right away?

MCO Item	MBHO Item	Question Wording
6.	6.	In the last 12 months, not counting times you needed counseling or treatment right away, did you make any appointments for counseling or treatment?
9.	9.	In the last 12 months (not counting emergency rooms or crisis centers), how many times did you go to an office, clinic, or other treatment program to get counseling, treatment or medicine for yourself?
16.	16.	In the last 12 months, did you take any prescription medicines as part of your treatment?
26.	26.	Does your language, race, religion, ethnic background or culture make any difference in the kind of counseling or treatment you need?
28.	28.	Using any number from 0 to 10, where 0 is the worst counseling or treatment possible and 10 is the best counseling or treatment possible, what number would you use to rate all your counseling or treatment in the last 12 months?
30.	30.	In general, how would you rate your overall mental health now?
35.	X	Our records show that you are now in [Health Plan Name]. Is that right?
37.	X	How many months or years in a row have you been in this health plan?
39.	35.	In the last 12 months, did you use up all your benefits for counseling or treatment?
42.	X	When you joined your health plan or at any time since then, did you get someone new for counseling or treatment?
44.	38.	In the last 12 months, did you need approval for any counseling or treatment?
47.	X	In the last 12 months, did you look for any information about counseling or treatment from your health plan in written materials or on the Internet?
49.	40.	In the last 12 months, did you call [your health plan's] customer service to get information or help about counseling or treatment?
51.	X	In the last 12 months, did you have to fill out any paperwork about counseling or treatment for your health plan?
53.	X	Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan for counseling or treatment?
56.	44.	In general, how would you rate your overall health now?
57.	45.	What is your age now?
58.	46.	Are you male or female?
59.	47.	What is the highest grade or level of school that you have completed?
60.	48.	Are you of Hispanic or Latino origin or descent?
61.	49.	What is your race?

Appendix C: Enlisting Respondents Who Are Difficult to Reach

It may be difficult to locate some respondents in transient populations. But it is especially important to interview or receive returned questionnaires from those individuals who might be difficult to reach. They are likely to be different from those individuals who immediately complete and return a questionnaire or who are easily interviewed. They may, for example, be chronically ill, have two jobs, or be different in some other way that is relevant to your results. Unless you maintain a high response rate overall and make efforts to reach them, their views and experiences will be underrepresented.

Sponsors and vendors should discuss this possibility in advance and make plans to do extensive telephone tracing. You may also want to talk about the timing of interviews. Because the ECHO survey is a survey of respondents at their homes (a household survey), interviewers typically work in the evenings and on weekends. However, the survey vendor should provide at least one interviewer during the daytime to maintain appointments made with respondents during the day and try to reach those respondents who do not answer during the evenings (e.g., those who have evening shift jobs). Interviewing during the daytime on weekdays is especially effective and appropriate for Medicare surveys and for surveys that include children in the sample frame.

You are likely to encounter a few special problems with which you should be familiar. Sponsors and vendors should discuss these issues and agree on appropriate procedures.

Common Problems	Some Guidance
The interviewer reaches an answering machine.	Answering machines are part of modern life. There is some debate about whether or not it is best to leave a message; unfortunately, there is no right answer to this question. However, you cannot assume that a respondent will call back, so survey vendors should continue to make an effort to reach the respondent. In essence, when an answering machine is reached, it should be handled as though the person were not at home.
The telephone number for the sampled individual is incorrect.	The vendor should make every effort to find the right number: If the person answering the telephone knows how to reach the sampled individual, use that information. If there is no information about the sampled individual at the provided number, use directory assistance. If a correct telephone number cannot be found for the individual, and you are using both mail and telephone methods of data collection, mail the questionnaire.

Common Problems	Some Guidance
The sampled person has moved and the address in the sample is incorrect.	The vendor should make every effort to track down the sampled person. Stamp all mail "Address Correction Requested" so that undelivered mail gets returned. If the mail gets returned, refer to sources like Internet directories or national change of address directories to obtain the new address.
The sampled person is temporarily away.	The protocol for this situation will depend somewhat on the data collection schedule. If the person will become available before data collection is scheduled to be concluded, the right procedure is to call back later.
The sampled person does not speak English.	If the survey questionnaire has not been translated into the respondent's language, an interview may be impossible. Occasionally, there may be a family member who is willing to serve as translator. Most survey organizations consider a translated interview, with all its imperfections, to be better than missing the interview altogether. However, serving as an interpreter for a telephone interview requires a great deal of motivation on the part of a family member.
The sampled person is temporarily ill.	Contact the person again before the end of data collection to determine if he/she has recovered and can participate.
The sampled person has a condition that prevents being interviewed, such as having a visual, hearing, or cognitive impairment.	This person becomes a nonrespondent by virtue of their condition.